

Glossary

The purpose of this glossary is to define terminology that may be unfamiliar to some readers of this publication. These terms apply to the areas of special treatment, medication, and services for the visually impaired as well as to the nature of certain visual impairments.

Accommodation. The adjustment of the eye to focus at different distances, accomplished by changing the shape of the crystalline lens through action of the ciliary muscle.

Adapted physical education. A diversified program of developmental activities, physical fitness, games, sports, and rhythms suited to the needs, interests, capacities, and limitations of students who may not safely or successfully engage in unrestricted participation in the vigorous activities of the general physical education program.

Adaptive behavior. A reaction that promotes the social or biological welfare of an organism and leads to the adjustment of the organism to its environment.

Adventitious. Occurring after birth; not present at birth.

Albinism. Congenital absence or deficiency of pigment in the iris, skin, and/or hair; usually associated with lowered visual acuity, nystagmus, and photophobia and often accompanied by large refractive errors.

Amblyopia. Diminished visual acuity, not correctable with conventional lenses, and not related to structural or pathological ocular defects.

Aniridia. Congenital or acquired absence of the iris.

Anomaly. Marked deviation from the normal standard.

Anophthalmos (Anophthalmia). Absence of a true eyeball.

APH. American Printing House for the Blind. Major supplier of educational materials for visually impaired children.

Aphakia. Absence of the crystalline lens of the eye, a result of surgery, trauma, or a congenital condition.

Assistive technology. Any item, piece of equipment, or system that is used to increase, maintain, or improve functional capabilities of individuals with disabilities.

Astigmatism. A refractive error that prevents the light rays from a single point from coming to a single focus on the retina because of unequal refraction or bending of the incident light by the refractive media of the eye.

Aural. Pertaining to the ear, hearing.

Binocular vision. The ability to use the two eyes simultaneously to focus on the same object and to fuse the two images into a single perception.

Blindness. The inability to see; absence or severe reduction of vision.

Blind spot. A “blank” area in the visual field, corresponding to the position of the optic nerve (a physiological blind spot). May also be an area of absent or reduced sensitivity anywhere in the visual field.

Braille. A system of raised dots that enables some functionally blind students to read by touch.

Braillewriter. A machine used to produce embossed braille symbols.

Cataract. A condition in which the crystalline lens of the eye partially or totally loses transparency, with consequent loss of visual acuity.

Central visual acuity. Ability of the macula to separate details of images brought to a focus on it.

Choroiditis. Inflammation of the choroid.

Closed-circuit television (CCTV). Electronically enlarges printed material onto a television screen; allows the user to change black print on a white background into white print on a black background. The degree of illumination can be altered, as well as that of magnification.

Cognitive skills. Intellectual processing abilities.

Color deficiency. Partial or complete inability to discriminate the ordinarily differentiated hues.

Communication skills. Skills that enable a visually impaired person to communicate with or receive communications from others.

Compensatory skills. Any technique, habit, or activity that must be developed to overcome a severe visual impairment; e.g., daily living skills, social and emotional skills.

Cones and rods. Two kinds of cells that form the photoreceptor layer of the retina and act as light-receiving media. Cones are concerned with visual acuity and color discrimination; rods pertain to motion and vision at low degrees of illumination (night vision).

Congenital. Present at birth.

Conjunctiva. Mucous membrane that forms the posterior layer of the eyelids and covers the front part of the eyeball, ending at the corneal limbus.

Contact lenses. Lenses made to fit directly on the cornea. These lenses are used for correction of vision in people having a cone-shaped cornea (keratoconus) to provide an improved retinal image and for cosmetic reasons. Corneal lenses are also used after cataract (lens) extraction to replace the lens removed from the eye. They provide less distortion and difference in the size of the image than spectacles do.

Convergence. The process of directing the visual axes of the two eyes to a near point, with the result that the pupils of the two eyes are closer together. The eyes are turned inward.

Cornea. Clear, transparent portion of the outer coat of the eyeball forming the front of the aqueous chamber. The cornea is also the major refracting medium of the eyes.

Corneal scarring. A lack of transparency of the clear tissue forming the anterior surface of the aqueous humor.

Count fingers (CF). A method of reporting vision too poor to read the Snellen chart; the examiner records the number of inches at which fingers can be counted.

Daily living skills. Skills that enable a visually impaired student to live independently.

Dark adaptation. The ability of the retina and pupil to adjust to a dim light.

Depth perception. The ability to perceive the solidity of objects and their relative position in space.

Diffused light. Light spread out to cover a large space or area.

Diopter. Unit of measurement of lens power.

Diplopia. The seeing of one object as two.

Direct lighting. Light with no shield; creates glare.

Distance vision. The ability to see objects clearly from a distance.

Echolalia. The meaningless repetition by a person of words addressed to him or her.

Enucleation. Complete surgical removal of the eyeball.

Esotropia. A manifest turning inward of the eye.

Exotropia. Abnormal turning outward from the nose of one or both eyes.

Extraocular motility. Ability to move the eyes from one position to another.

Eye specialist. A California-licensed ophthalmologist or optometrist.

Farnsworth test. A measurement of color perception using a series of plastic chips of slightly differing hues.

Federal quota program. See “American Printing House for the Blind Federal Quota Program,” which appears in Appendix E.

Fixation ability. Ability of the eyes to direct a person’s gaze on an object and to hold the object steadily in view.

Focus. Point to which rays are converged after passing through a lens.

Foot candle. The unit commonly used to measure light intensity; the amount of light given off by a candle at a one-foot distance.

Fovea. A pit or depression; a rodless area of the retina affording acute vision.

Free matter for the blind. The mail regulation that permits free mailing privileges for the blind.

Functional vision. The presence of enough usable vision, giving the student the ability to use sight as a primary channel for learning. This term also means the total act of seeing and how the student uses sight to function educationally.

Functionally blind. A student whose primary channels for learning are tactual and auditory.

Fusion. The power of coordinating the images received by the two eyes into a single mental image.

Glare. A quality of light that causes discomfort in the eye; it may result from a direct light source within the field of vision or from a reflection of a light source not in the field of vision.

Glaucoma. A disease of the eye marked by an increase in the intraocular pressure causing organic changes in the optic nerve and defects in the visual field.

Halberg clips. Lens holders that can be placed on glasses for testing.

Hemianopsia (Hemianopia). Defective vision or blindness in half of the visual field.

Hand movements (HM). A method of reporting the vision of people that is too poor for them to read the Snellen chart and too poor for them to count fingers; the examiner moves his or her hand at a relatively close distance from the eyes of the patient and records this distance, if movement is discernible.

Hyperopia. Farsightedness; a condition of the eye in which light rays from distant objects are brought to a focus behind the retina when the eye is at rest.

Individuals with Disabilities Education Act (IDEA). IDEA ensures a free appropriate public education in the least restrictive environment for all students and youths with disabilities.

Individualized education program (IEP). A written plan for a special education student that is developed and implemented in accordance with the IEP team and that is designed to meet the assessed needs of the student.

Individualized plan. Includes the IFSP, the IEP, and/or the ITP.

Individualized Family Service Plan (IFSP). A plan developed to meet the requirements of Part H of IDEA.

Individualized Transition Plan (ITP). A term commonly used to refer to transition language in the IEP required by IDEA.

Intraocular origin. Occurring from inside the eye.

Iris. Colored, circular muscle suspended between the cornea and the crystalline lens. It separates the anterior and posterior chambers and is perforated in the center to form the pupil.

Jaeger test. A test for reading, in which lines of reading matter are printed in a series of type sizes, often written J#1, J#2, and so forth.

Keratoconus. A conical protrusion of the cornea associated with corneal thinning and scarring.

Keratometry. The measurement of corneal curvature.

Large print or type. Print which is larger than type commonly found in magazines, newspapers, and books. Ordinary print is 6 to 11 points in height (about $\frac{1}{16}$ to $\frac{1}{8}$ of an inch). Large type is 14 to 18 points ($\frac{3}{16}$ to $\frac{1}{4}$ of an inch) or larger.

LEA. Local educational agency.

Legally blind. Central visual acuity of 20/200 or less in the better eye after best correction with conventional spectacle lenses; or visual acuity better than 20/200 if there is a field defect in which the widest diameter of the visual field is no greater than 20 degrees. In the United States this definition has been established primarily for economic and legal purposes.

Lens. A refractive medium.

Lentiglobus. An exaggerated curvature of the crystalline lens producing a spherical bulging on its anterior surface.

Light adaptation. The power of the eye to adjust itself to variations in the amount of light.

Light perception (LP). The ability to distinguish light from dark.

Light preference. Preferring a specific type of light and/or degree of illumination to accommodate for a visual impairment; i.e., direct light to indirect lighting/dim light to bright.

Light projection. The ability to determine the direction of light.

Loupe. A small magnifier.

Low vision. A student whose vision can be used as a primary channel for learning (sometimes referred to as partial sight or subnormal vision).

Low vision aids. Optical devices of various types useful to persons with visual impairments (magnifiers, monoculars, lenses, hand-held telescope, prism lenses, and so forth).

Low vision assessment. A comprehensive assessment of a visually impaired student's visual impairment and visual potentials and capabilities.

Low vision clinic. A clinic that gives eye examinations, provides low vision assessments, prescribes low vision aids, and offers instruction on how to use the aids.

Macula lutea. The small area of the retina that surrounds the fovea and with the fovea makes up the area of the most distinct vision.

Macular degeneration. A disease affecting cone cells in the macula, usually results in gradual loss of central vision, but never in total blindness. It is often associated with the aging process.

Mobility. A term used to denote the ability to navigate from one's present fixed position to one's desired position in another part of the environment. (See also *Orientation*.)

Monocular diplopia. A condition in which two images of the same object are seen by one eye.

Motor skills. Movement ability.

Multiply impaired. Two or more concomitant disabilities that have a direct effect on learning ability.

Muscle balance. The ability of the six extraocular eye muscles of each eye to pull together to allow binocular vision to occur in all directions—vertical, horizontal, oblique, and circular.

Myopia. Nearsightedness; a refractive error in which the point of focus for rays of light from distant objects falls in front of the retina.

Near vision. The ability to see objects distinctly at the required reading distance.

Nemeth Code. A braille code for mathematics and science.

Night blindness. A condition in which the rod function is diminished to cause deficient visual acuity at night and in dim light.

Nystagmus. An involuntary, rapid movement of the eyeball; it may be lateral, vertical, rotary, or mixed.

Ocular pursuit. The act of tracking a moving object in all cardinal directions—vertical, horizontal, oblique, and circular.

Occipital cortex. The section of the brain that monitors visual sensations.

O.D. Oculus dexter; right eye.

Ophthalmologist. A doctor of medicine (M.D.) who specializes in diagnosis and treatment of defects and diseases of the eye, performing surgery when necessary or prescribing other types of treatment, including glasses or other optical devices.

Optic atrophy. Degeneration of the nerve tissue that carries messages from the retina to the brain.

Optic nerve. The group of nerve fibers that carry impulses from the retina to the visual cortex.

Optician. One who grinds lenses, fits them into frames, and dispenses and adjusts glasses or other optical devices on the written prescription of an optometrist or physician.

Optometrist. A doctor of optometry (O.D.) who specializes in the examination and treatment of conditions or impairments of the visual system. Optometrists are trained to detect problems with vision, eye diseases, and other abnormalities.

Orientation. The process of using the remaining senses in establishing one's position and relationship to all other significant objects in the environment. (See also *Mobility*.)

Orthoptic training. Series of scientifically planned exercises for developing or restoring the normal teamwork of the eyes.

Orthoptist. One who provides orthoptic training.

O.S. Oculus sinister; left eye.

O.U. Oculus unitas; both eyes.

Paresis. Slight or partial paralysis.

Part H. The section of IDEA dealing with infants with disabilities.

Partially sighted. The visual acuity of a partially sighted person ranges from 20/70 to 20/200 in the better eye, with correction. (See also *Low vision*.)

Peripheral vision. The perception of objects, motion, or color by any part of the retina, excluding the macula.

Photophobia. Abnormal sensitivity to or discomfort from light.

Polycoria. The existence of more than one pupil in an eye.

Program evaluation. A process for obtaining information to assist in making decisions on program improvement and expansion, maintenance, or termination of a program or program component.

Proprioceptive. Receiving stimulations within tissues of the body.

Ptosis. A paralytic drooping of the upper eyelid.

Public Law 94-142. A federal law that mandates a free appropriate public education for all handicapped children.

Pupil. The round opening (black center) in the center of the iris, which corresponds roughly with the shutter opening of a camera. This opening permits light to enter the eye.

Quadrantanopsia (Quadrantanopia). Defective vision or blindness in one-fourth of the visual field bounded by a vertical and a horizontal radius.

Reading machine. A machine used to read printed material orally or tactually.

Reading stand. A stand that supports regular or large print books and allows the reader to change the position of the book.

Refraction. The bending or deviation of rays of light in passing obliquely from one medium to another one of different density; the determination of the refractive errors of the eye and their correction by prescription of lenses.

Refractive error. A defect in the eye that prevents light rays from being brought to a single focus on the retina.

Residual vision. The remaining useful sight after a congenital defect, injury, illness, trauma, systemic disease, or ocular pathology has caused a vision loss.

Retina. Innermost coat of the eye, containing light-sensitive nerve cells and fibers connecting with the brain through the optic nerve.

Retinal detachment. A separation of the retina from the choroid.

Retinitis. Inflammation of the retina.

Retinitis pigmentosa. Degeneration and atrophy of the light-sensitive (rod cells) of the retina.

Retinoblastoma. A tumor arising from the retinal germ cells; the most common malignant intraocular tumor of childhood, usually occurring under age five.

Retinoscope. An instrument for the objective determining of the refractive state of the eye by observing the movements of lights and shadows across the pupil by the light thrown onto the retina from a moving mirror.

Retinoschisis. A congenital cleft of the retina. A cleavage of the retinal layers.

Retrolental fibroplasia (RLF). A disease of the retina in which a mass of scar tissue fills the space between the back of the lens and the retina. Both eyes are affected in most cases, and it occurs chiefly in infants born prematurely who receive excessive oxygen.

Saccadic fixation. Relating to eye movements; the jumping movement of the eyes between fixations.

Sclera. The white coating of the eye.

Scotoma (Scotomata). A blind or partially blind area in the visual field.

SEA. State educational agency; e.g., the California Department of Education.

SELPA. Special education local plan area.

Sensory/motor. Relating to or functioning in either sensory or motor aspects or both of bodily activity.

Sensory stimulation. To rouse or invigorate the senses—visual, auditory, olfactory, gustatory, and kinesthetic.

Sighted guide techniques. Techniques that are used by the sighted to guide the visually impaired.

Sine correction (SC). Without correction, not wearing glasses.

Slate and stylus. Slate: a metal plate used to hold paper for hand braille. Stylus: an instrument used to press the braille dots on the paper held by the slate.

Snellen chart. Used for testing central visual acuity. It consists of lines of letters, numbers, or symbols in graded sizes drawn to Snellen measurements. Each size is labeled with the distance at which it can be read by the normal eye. Most often used for testing vision at a distance of 20 feet.

Stereoscopic vision (Stereopsis). Ability to perceive the relative position of objects in space without such cues as shadows, size, and overlapping.

Strabismus. Squint; failure of the two eyes to direct their gaze simultaneously at the same object because of muscle imbalance.

Suppression. A mental process of inattention to distracting or disturbing stimuli. Often a forerunner of amblyopia.

Telebinocular. Any stereoscopic instrument used for vision screening.

Tonometer. An instrument for measuring pressure inside the eye.

Tracking. The ability of the eye or eyes to follow systematically an object of regard; e.g., print or ball.

Trailing. Information-gathering and direction-taking techniques using the hand or cane.

Trauma. Injury, wound, or shock, or the resulting condition.

Tunnel vision. Contraction of the visual field to such an extent that only a small area of central visual acuity remains, thus giving the affected individual the impression of looking through a tunnel.

Vision. The art or faculty of seeing.

Visual acuity. The measurement of the sharpness of vision in respect to the ability to discriminate detail. A visual acuity measurement is not useful for determining a career choice, classroom situation, or training program. Visual acuity should not be used to predict one's visual function or educational performance.

Visual efficiency. The level of visual function.

Visual processing. How one uses or processes the images acquired by the act of seeing.

Vitreous humor. Transparent, colorless mass of soft, gelatinous material filling the space between the lens and retina.

Vitreous turbidity. Cloudiness or haze in the vitreous humor.

Publications Available from the Department of Education

This listing of publications represents some of the more recent or most widely used special education publications from the California Department of Education.

Guidelines and Procedures
for Meeting the Specialized Physical
Health Care Needs of Pupils

The guidelines are particularly useful in
serving chronically ill children who require
intricate medical procedures and care.

1990, 212 pp., illus.
Item No. 0902—\$11.00

I Can Learn: A Handbook for Parents,
Teachers, and Students

This handbook emphasizes timely interven-
tion for students experiencing learning or
performance problems and identifies
strategies for responding effectively to those
students' special educational needs.

1994, 134 pp.
Item No. 1140—\$8.50

Guidelines for Occupational Therapy and
Physical Therapy in California Public
Schools

These guidelines discuss the provision of
occupational and physical therapy in
California schools. The content covers laws
and regulations governing occupational
therapy and physical therapy; roles and
responsibilities of the school therapist;
provision of student-related services: IDEA,
Part B; early intervention services for infants
and toddlers: IDEA, Part H; and
administration of therapy services. Valuable
appendixes, a glossary, and a list of selected
references also appear.

1996, 120 pp.
Item No. 1268—\$12.50

Special Education Program Guidelines

This series of guidelines was prepared to clarify the
identification, assessment, planning, and provision of
specialized services to students with low-incidence
disabilities.

Program Guidelines for
Hearing Impaired
Individuals

1986, 64 pp.
Item No. 0309—\$8.50

Program Guidelines for
Individuals Who Are
Deaf-Blind

1990, 94 pp.
Item No. 0886—\$8.50

Program Guidelines
for Individuals Who
Are Severely
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Impaired

1992, 112 pp.
Item No. 1032—\$8.50

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1997, 112 pp.
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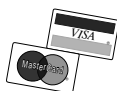
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